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VATSA-99-5701-12

DEPT. OF TRANSPORTATION
ANTI-SPRAY SUPPRESSION SYSTEM OF MUD GUARDS AND LOUVERED PANELS

As the above letter head shows, the following information concerns a new splash and spray concept I invented, for which a provisional patent application was submitted on September, 16, 1998.

Personal History

As a foreman for over 20 years, I assisted in manufacturing tanks, piping, ovens, waste treatment and liquid oxygen plants, as well as, oxygen producing units for submarine tenders of the Polaris missiles. I also supervised the manufacture and design of conveyors and tanks.

36 pgs

Product History

While on a motor trip from Pennsylvania to Chicago, Illinois in late 1997, which was entirely during light and heavy rain, the concept for the anti-spray mud guards was born. The many hours spent drawing blue prints and producing prototypes culminated in what you see in enclosed diagrams.

Technological Improvements -- Mud Guards

- 1) A 15 degree curve in mud guard design.
- 2) The well in center with opening at bottom. This well creates a current and forces the water down to the roadway,
- 3) The connecting bracket to the trailer, along with the 15 degree curvature, prevents mud guard from flapping and maintains a vertical position, even at today's increased speeds on our highways.
- 4) Maintaining this vertical position also prevents pebbles and small stones from flying out the sides and endangering the windshields of vehicles behind trailer.

Technological Improvements -- Louvered Side Panels

- 1) Totally new technological and aerodynamic design of louvered side panels, prevents the spray from causing a hazardous condition, both for the truck driver, and any vehicle along side of truck. The louvers force the rain back into the mud guard and not on to vehicles. The water goes out the well in center of mud guard to the pavement.
- 2) (Openings in panel are set 3" apart and the louvers are riveted to openings. The panel must be set on bottom of trailer at least, but not limited to, the diameter of the wheel and as close to mud guard as possible.
- 3) These side panels can be adapted to any length truck or trailer.

Material Costs

Mud Guards		Side Panels	
Mud Guard	\$7.00	Louvers	\$1.00
Angle Support	1.50	Panel	1.00
Sheet Metal	2.00	Assembling	13 .00
Nuts,Bolts	1.50		
Paint	1.00	Total	15.00
Assembling	17.00		
Total	30.00		

The above prices are for 24" mud guards and 30" side panels. Prices of 30" mud guards would increase by \$2.00 and 36" mud guards by \$4.00. Price for 36" side panel would increase by \$3 .00.

Conclusions

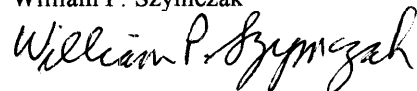
- 1) With the increase of maximum speeds on our highways, the spraying from trucks and trailers using today's conventional mud guards has become increasingly hazardous. With the attachment of my anti-spray system this spraying effect has almost completely disappeared. We have attached our system on local Ice Company trucks and continue to monitor their effectiveness. The drivers say visibility for them has improved 100%, that is, they have no vision problems when pulling out to pass, as they did have with the old style mud guards. They also can readily observe that vehicles driving behind or alongside have no similar vision problem. They mentioned that they have had numerous comments from drivers of vehicles about the clarity of vision when parking at truck stops or stopping for gas. The drivers at local PENNDOT terminal, where we also have installed our system, have uttered similar sentiments. They all agree that vision is 100% improved and highly endorse this product. The enclosed video demonstrates how effective this new spray system is. It was taken in the rain traveling at 65 miles per hour on highway. We believe it speaks for itself
- 2) The ultimate answer is – SAFETY. While we cannot measure how many accidents have been caused by drivers visibility being impaired during rain, we believe our system will prevent nerve shattering and white knuckle clenching experiences for all drivers during rainy weather. As your report stipulated, it has been more than 30 long years of study by NHTSA and others with no definite conclusions reached. We feel that the installation of our anti-spray system will improve the visibility of both truck drivers and vehicles driving along side or behind trucks and help prevent dangerous situations on our highways during inclement weather.
- 3) In conclusion we must emphasize the fact that if only one accident or death is prevented by using our system, then all our efforts in bringing highway safety to everyone's attention was well worth the effort.

Sincerely,

Joseph Szakurski



William P. Szymczak



Please type a plus sign (+) inside this box →

PTO/SB/16 (2-98)

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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

INVENTOR(S)	
Given Name (first and middle (if any)), Joseph SZAKURSKI	Family Name or Surname RD2 BOX 2109A
Residence (City and either State or Foreign Country) STROUDSBURG, PA. 18360	
Additional inventors are being named on the _____ separately numbered sheets attached hereto	
TITLE OF THE INVENTION (280 characters max)	
ZAAK TRUCK SPRAY CONTROL	
Direct all correspondence to: CORRESPONDENCE ADDRESS	
Customer Number _____	Place Customer Number Bar Code Label here
OR <input type="checkbox"/> Firm or Individual Name	Type Customer Number here
JOSEPH SZAKURSKI	
Address RD2 BOX 2109A	
Address	
City STROUDSBURG	State PA. ZIP 18360
Country U.S.A.	Telephone 717 421 1781 Fax _____
ENCLOSED APPLICATION PARTS (check all that apply)	
Specification Number of Pages: 3	<input checked="" type="checkbox"/> Small Entity Statement
Drawing(s) Number of Sheets: 5	<input type="checkbox"/> Other (specify) _____
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)	
<input checked="" type="checkbox"/> A check or money order is enclosed to cover the filing fees	FILING FEE AMOUNT (\$) \$150.00
The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: _____	
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.	
<input checked="" type="checkbox"/> No.	
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are: _____	

Respectfully submitted,

SIGNATURE

TYPED or PRINTED NAME

TELEPHONE

Date

REGISTRATION No.

(if appropriate)

Docket Number:

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

003

**STATEMENT CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) & 1.27(b))—INDEPENDENT INVENTOR**

Docket Number (Optional)

Applicant, Patentee, or Identifier: Joseph SZAKURSKI

Application or Patent No.: _____

Filed or Issued: _____

T i e : OWNER

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

- ☒ the specification filed herewith with title as listed above.
☐ the application identified above.
☐ the patent identified above.

I have not assigned, granted, conveyed, or licensed, and am under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who would not qualify as an Independent Inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern, or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ No such person, concern, or organization exists.
☐ Each such person, concern, or organization is listed below.

Separate statements are required from each named person, concern, or organization having rights to the invention stating their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

Joseph SZAKURSKI

NAME OF INVENTOR

NAME OF INVENTOR

NAME OF INVENTOR

Signature of inventor

Signature of inventor

Signature of inventor

Date

Date

Date

ZAAK TRUCK SPRAY CONTROL

The side bracket with the loutves goes together with the mud guard.
The reason why the loutves catching the air forcing the spray of water
back to the mud guard which has a well in the center of the mud guard-
that water goes out to the pavement not out to the sides preventing a
hazard to other drivers.

This invention was to prevent a hazard that has been since trucks have
been built.

When it is raining very hard and you are in your car trying to pass a
tractor trailer rig- What do you see in front of your car? A mist which
obscures your vision. This hazard has been in existance for too long and
no one seemed to remedy the hazard.

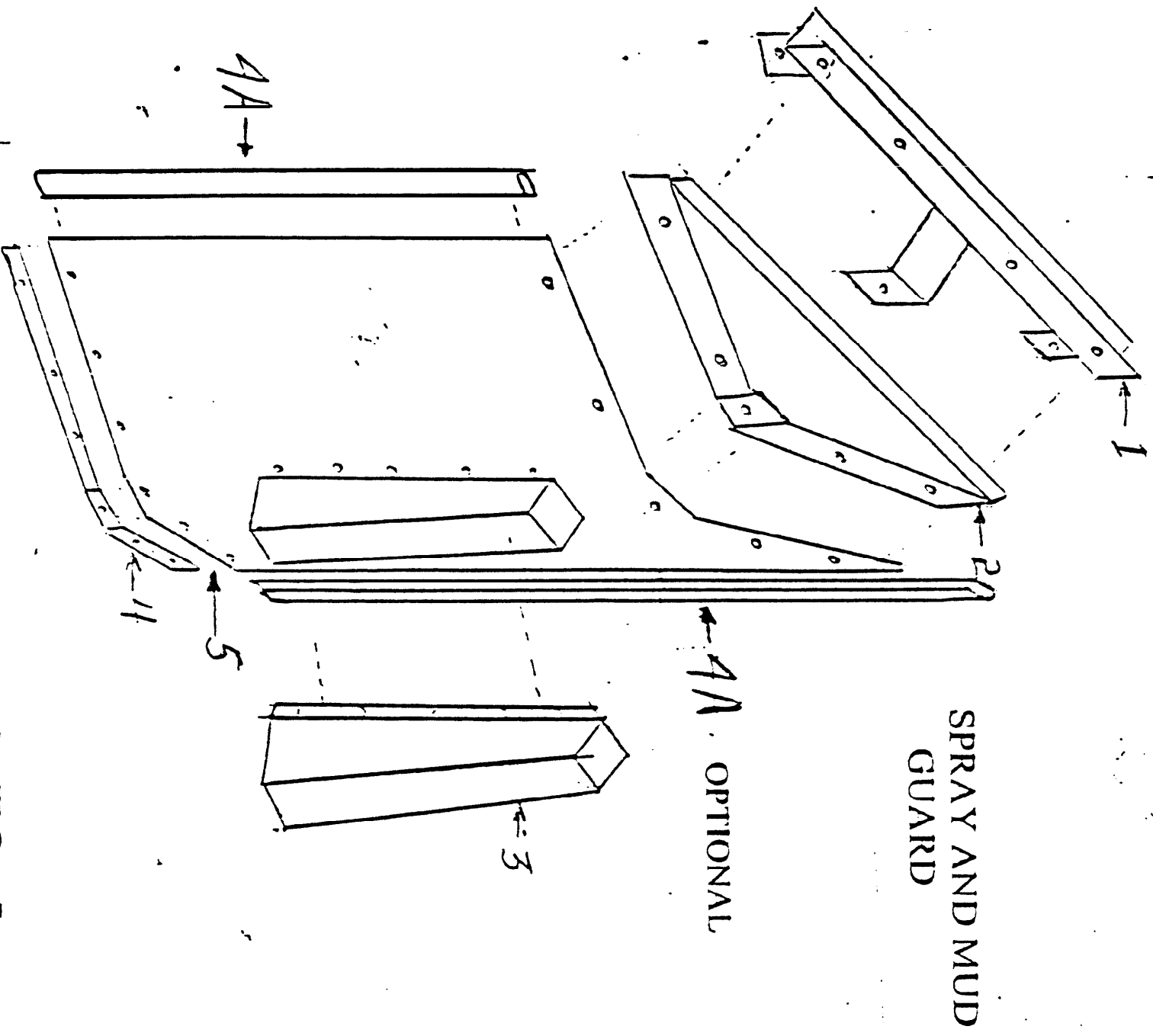
I-JOSEPH I SZAKURSKI the inventor of this combination am trying to
eliminate this hazard with the following pictures of my invention.

THE undersigned being the inventor

9/15/98 Joseph Szakurski

I am enclosing \$150.00 dollars if you claim that it repres ents 2
inventions. the two have to go together to control the spray from
the trucks.

ZAAK TRUCK SPRAY CONTROL



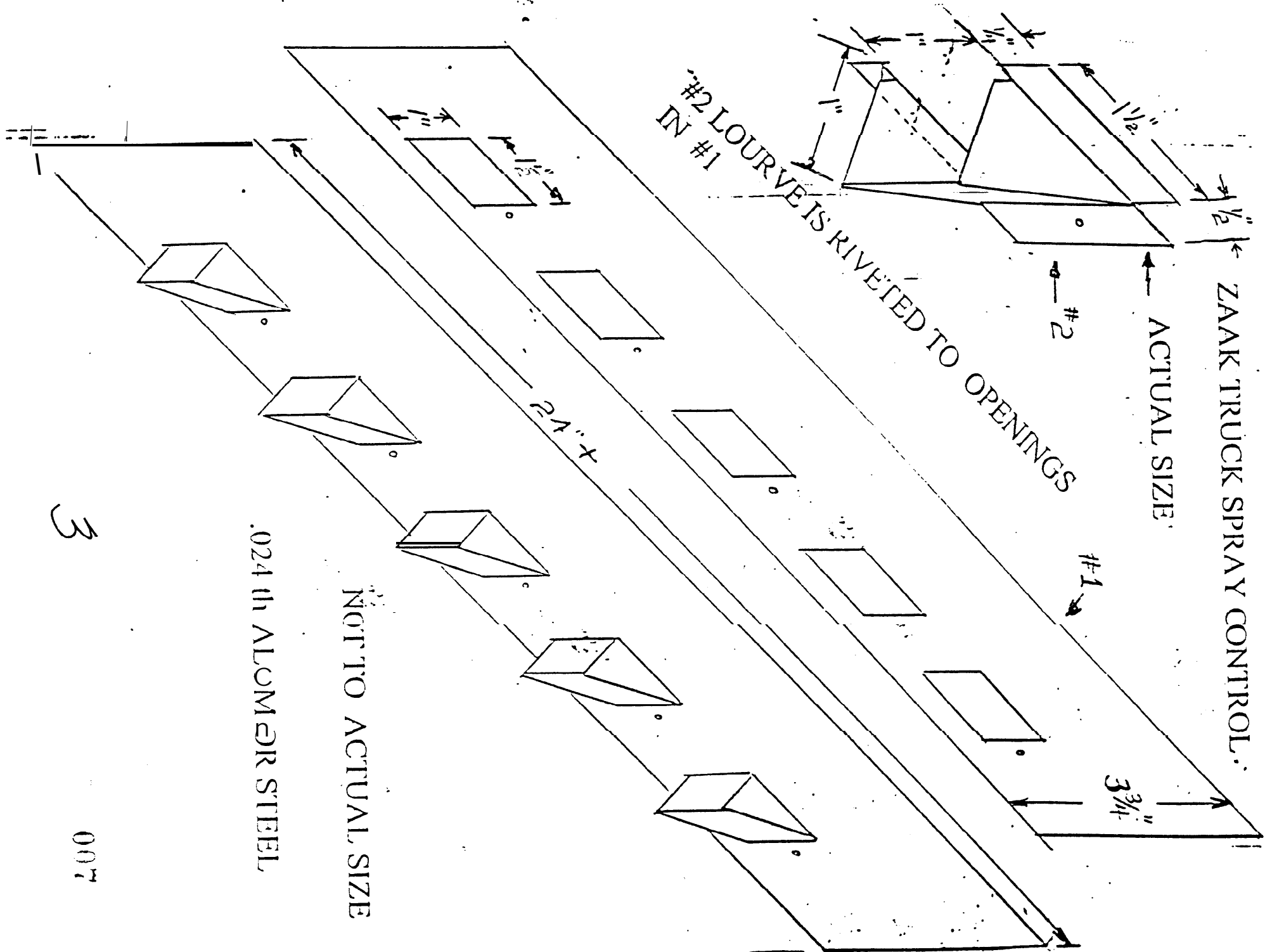
PARTS TO BE ASSEMBLED TO -5

1-2-3-4-4A

ZAAK TRUCK SPRAY CONTROL.

ACTUAL SIZE

#2 LOURVE IS RIVETED TO OPENINGS



NOT TO ACTUAL SIZE

.024 lb ALUMINUM STEEL

3

007

TRAILER

Material -.024 galvo. sheet metal

$\frac{1}{2}$ "
2"

SIDE VIEW

$1\frac{1}{2}$ "

TOP VIEW

Bolt under trailer

$3\frac{3}{4}$ "

SIDE VIEW

24" - 31" LG

Bolt to side of trailer

front view

TOP VIEW left side

i The side pieces that protrud out catches the air - to prevent water from escaping thru the holes forcing water to the mud guard - to enter opening and to the roadway in back - not out to the side to create a mist that passing cars cannot see road.

4

008

ZAAK TRUCK SPRAY CONTROL

□ MATERIAL LIST

1 1/8"-2"-2"angle 24" lg.

2 galvo. sheet metal .024th. bent to 15 deg.on both sides to fit on to #5

3 galvo. sheet metal bent to form the well 'that catches the water'spray and delivers the water to the pavement. this is also assembled to #5

4- 3/4-1/8" flat bar steel bent 15deg.both ends and assembled to #5

5- 'Standard mud guard 5/16"th. 24"-30" made out of plastic or rubber.

4A OPTIONAL- Sheet metal channel 3/4-30"

Side spray eliminator

1- lourves -.032 th.al. 1" high-1"wide-1-1/2" lg .

2- Alum..035 wall -24"lg to 31"lg.-3-3/4"

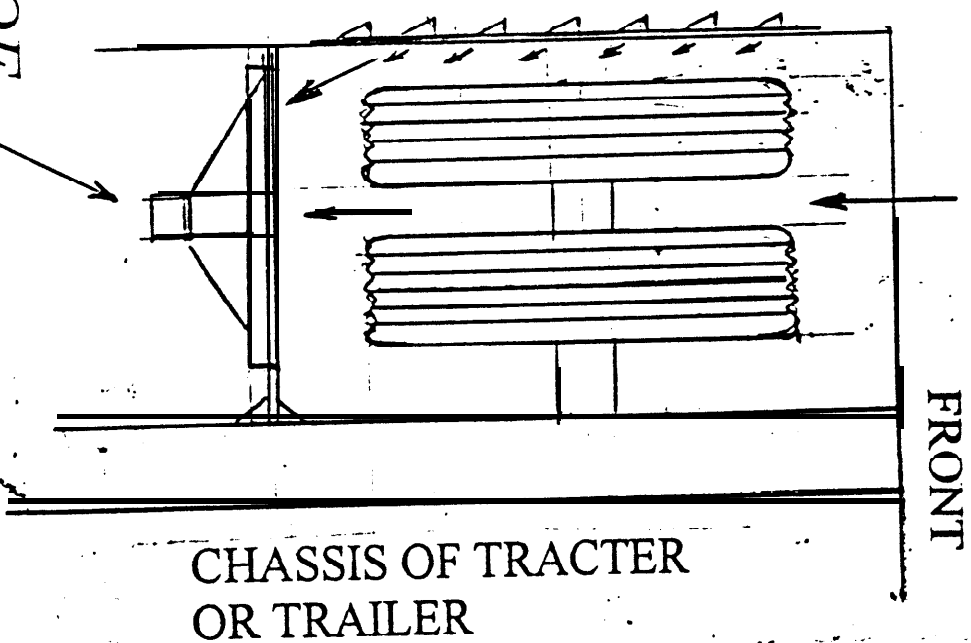
2A Galvo.035 wall -24:lg to 31"lg-3-3/4"

Lourves are. pop-riveted to #2

5

AIR FORCING WATER BETWEEN
WHEELS TO MUD GUARD WELL.

AIR FORCING
WATER BACK
THRU THE
LOURVES TO
MUD GUARD



WELL IN CENTER OF
MUD GUARD WHERE
WATER GOES OUT.

AT OPENING AT
BOTTOM OF WELL

TOP VIEW

CHASSIS OF TRACTER
OR TRAILER

FRONT

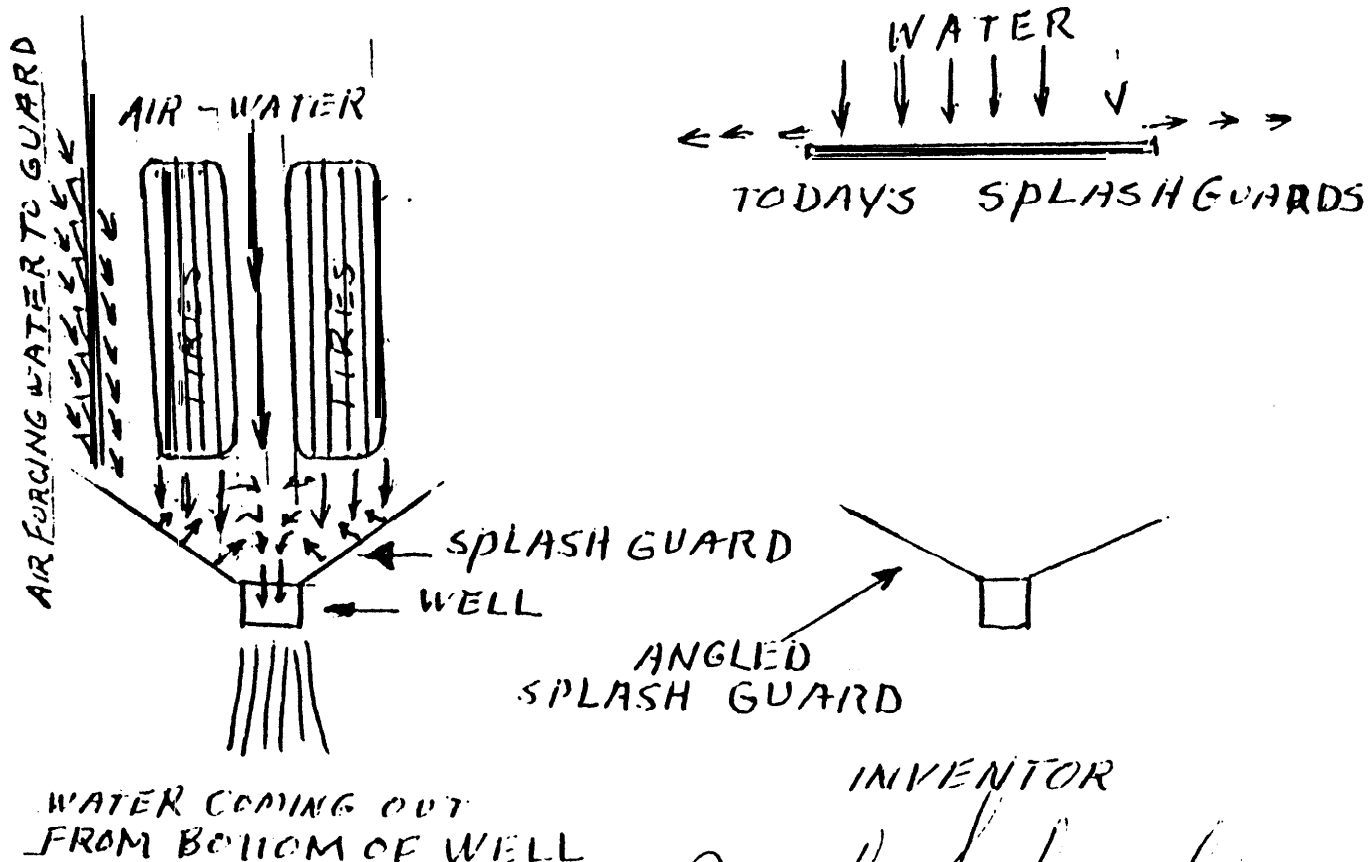
SPLASH-MUD GUARD

I will try to make my invention more simple by making some hand sketch drawings.

The everyday splash -mud guard on trucks today are straight up and down.

When it rains water hits the splash -mud guard that water mist has to escape either left or right causing a hazard to drivers.

My invention changes the direction of the water so that it goes thru the well in the splash guard with help from the side louvers which also direct water to the splash mud guard.



INVENTOR

7 Joseph Zukurski

WIKI

012



Don't like Joseph. Don't make

*Stroud Township inventor hopes
his new mud flaps for trucks make*

013

A big splash

By **BILL SULON**
Pocono Record Business Editor

Joseph Szakurski was tired of seeing trucks rain on his parade.

So the 77-year-old Stroud Township resident invented a "truck spray eliminator" — a system that involves curved mud flaps — in the hopes of channeling rain water to the ground and away from passing motorists' windshields.

Szakurski went to work on his product in January, after surviving a soggy drive from the Poconos to Chicago. "I went on 80, and all the way there I had bad weather."

Spray from I&wheelers cut visibility, making for a white-knuckle drive. When Szakurski returned, he set out to design a better mud flap.

Using stiff rubber and plastic, he designed a curved flap with a hole in the middle. Water channeled

over the wheel well, directs water to the mud flap interested." from along the side of the vehicle.

Szakurski said he applied for a patent for the product three weeks ago and is awaiting a decision. Though unique, it would not be the first water-channeling mud flap on the market.

"Different companies over the years have invented different mud flaps, so I guess there's a need for it," said Jim Schlier, owner of Schlier's Towing, which operates in five northeastern Pennsylvania counties, with headquarters in Tannersville. "Some have plastic that entraps the water and allows it to drip down. Others have channeled grooves that help channel the water."

Schlier said it would be unfair for him to comment about Szakurski's mud flap without seeing it in action, but added, "There's always a need for new kinds of safety items. Normally, the bigger companies

Szakurski said he hopes to sell each mud flap for \$60 and the water-diverting metal strip for \$16.

"It took me about four months to do it," said Szakurski, who designed four different-sized mud flaps. Szakurski invented another truckers' aid, the "Zaak three-way swivel shovel," which sells for about \$40 in some area hardware stores. Zaak is Szakurski's nickname.

The long-armed shovel reaches the top of a tractor trailer and enables the user to pull the snow to the ground. Less snow on top of the rig means better gas mileage and safer conditions for fellow motorists (flying chunks of snow and ice can be even more troublesome than water).

The shovel can also be used to scrape snow off the roofs of homes.

Szakurski retired in 1987 after 25 years as a foreman at Bussell Plants & College Point Long Island

Business

■ Mortgage rates

■ Stocks

■ Computers

014

E-4-7

E-8

Sunday, January 3, 1999 E-1

■ BILL SULON



Pocono
Commuter
Report

MUD

From Page E-1

tem on one of its trucks. The agency will test its effectiveness for a year.

"We'll see what it does," Eitner said. "If it works, I'll make a recommendation to the equipment division in Harrisburg that they look good and they should consider using them on other trucks."

Eitner agreed to test the mud flap system because Szakurski was persistent and because the idea sounds good.

"If it works, great," he said. "It's a problem for drivers when they go behind trucks."

And it's a problem for truckers, because the spray from their wheels keeps them from seeing vehicles trying to pass by.

Already on the road

"I know they work," said Szakurski, who hopes to mass produce the mud flap system in Strouds-

burg. He plans to charge \$25 to \$35 for each mud flap and \$15 to \$18 for each louvered bracket, depending on size.

Szakurski gave the mud flap system to his neighbor, Walter Pula, who owns Pocono Ice in Stroudsburg and Brewskies Beverage in East Stroudsburg. Pula installed the mud flaps and louvers on four trucks three months ago.

"They work excellent," Pula said. "It eliminates the spray, no doubt about it. When you look out the rearview mirror, you can see the trail pushing down to the rear. Normally, it would go out to the side. It's pretty amazing the way they work."

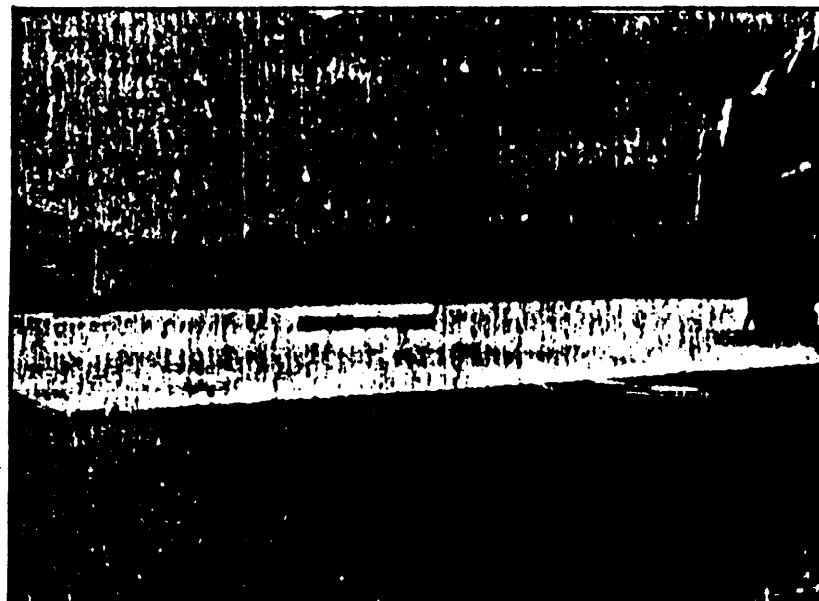
Bill Sulong is the Pocono Record's commuter columnist. Send questions or comments to: 611 Lenox St., Stroudsburg, Pa. 18360; call (570) 420-4341; fax (570) 421-6284; or send e-mail to: wsulong@poconorecord.com

PennDOT tries out mud flap invention

Try passing a tractor-trailer in a rainstorm and you'll appreciate Joseph Szakurski's latest invention.

OK, so that hasn't been a problem lately because of the drought, and most of the precipitation over the next couple of months will likely come as snow and sleet. But try remembering what it was like when it rained. You tensed up, gunned it and hydroplaned blindly by the big rigs.

Szakurski, a 77-year-old



Stroud Township resident, began working on his spray eliminator mud flap system last January after surviving a white-knuckle, rainy drive from the Poconos to Chicago. The stiff, curved mud flaps send water down and to the rear of trucks, rather than out to the sides and onto windshields of passersby. Another Szakurski invention, metal strips of louvered brackets, direct the water to the mud flaps. The strips go on the sides of the trucks, in front of wheels.

A PennDOT lryout

Szakurski pitched his invention to friends, truckers, politicians, the media and anyone else who would listen. The inventor approached Steve Eitner, an equipment manager for the state Department of Transportation in Monroe County, to see if he would consider trying out the system. Eitner contacted PennDOT headquarters in Harrisburg, which gave the go-ahead.

Last week, PennDOT agreed to install the sys-

See MUD Page E-2



Mark Murphy, left, and Coy Bresheaves of Hermiston, Ore.

GROW

HERMISTON, Ore. (AP) — Don't tell the folks in this eastern Oregon farm town they need a computer-chip plant or a ski resort.

Where Portland saw economic growth from high-tech businesses and Bend from lifestyle attractions like skiing and golf, Hermiston is booming the old-fashioned way — with blue-collar jobs.

In fact, the region, which includes Umatilla and Morrow counties, is experiencing the biggest job growth in the state percentage-wise, thanks primarily to a nervegas incinerator, a state prison, a Wal-Mart distribution center and a Union Pacific Railroad maintenance yard.

It reminds Mayor Frank Harkenrider of Hermiston's last boom, back in 1940, when World War II brought 8,000 peo-

bombs and bullets onto Umatilla Army Depot.

"They were living in houses," recalled Harkenrider, born here in 1926 and oil distributorship business built on a sandy desert nothing but a sandy oil when I was young."

But irrigation and big made the desert bloom highest yields in the co- toes, onions and watermelons are known throughout their sweetness.

Hermiston claimed 11 1996, but now the agricultural economy is diversifying. sprouting, the Safeway and Shepherd Community H

JUL 24 1995

I-95 blocked by 24-car pileup

PHILADELPHIA (AP) —
A 24-car chain reaction crash
on Interstate 95 sent at least
nine people to the hospital
Sunday afternoon and brought
northbound traffic to a stand-
still for more than two hours.

Police were not immedi-
ately sure what caused the
3:40 p.m. crash near Cottman
Avenue but said heavy rains
might have been a factor.

No one was killed and
none of the injuries appeared
life-threatening, said Officer
Edward Carroll, with city's
highway patrol division.

Tracy Fragassi, a nursing
supervisor at Frankford Hos-
pital's Torresdale division,
said nine to 12 people had
been treated there following
the accident.

"There are people with
multiple traumas, but no one
has been admitted or dis-
charged yet," Fragassi said
early Sunday night.

Authorities did not know
how many other people had
been injured or treated at
other hospitals.

FEB 8 1998

016

Truck fatalities down slightly in Pennsylvania

By MARK WIGFIELD
Ottawa News Service

WASHINGTON — Fatalities from truck crashes decreased by 6 percent in Pennsylvania in 1996, the last year for which statistics are available.

But the Keystone state has the dubious distinction of being sixth in the nation in the sheer number of trucking fatalities, according to an analysis of federal highway data by a group called CRASH, or Citizens for Reliable and Safe Highways.

There were 185 fatalities involving large trucks in Pennsylvania in 1996; Texas led the nation with 450.

Moreover, Pennsylvania had the second-highest number of truck driver fatalities. Thirty-seven drivers of large trucks died in crashes in the state in 1996.

CRASH's report comes at a time when Congress is considering a transportation bill that will, among other things, set policies for highway use and safety for the next five years. CRASH is pushing for tougher safety standards for trucks, and is determined to block any efforts by the trucking industry to expand use of triple-trailer

trucks.

The long rigs are 'allowed in only 16 states. Only two of them, Ohio and Indiana, are east of the Mississippi.

Rep. Bud Shuster, R-Everett, who chairs the House Transportation Committee, doesn't plan to change current law on triple-trailers, his spokesman said. But triple-trailers aside, large trucks of any kind are involved in fatal accidents at more than twice the rate of other vehicles, according to CRASH.

"On average, 14 Americans died every day in violent truck crashes in 1996," said Joan Claybrook, a former head of the National Highway Traffic Safety Administration and chair of CRASH. The transportation bill "presents us with many opportunities to influence our country's elected officials to choose highway safety over trucking industry profits," says Michael Scripps, executive director of CRASH.

James Lewis, a spokesman from the American Trucking Association, said that the rate of fatal accidents involving trucks dropped by 38 percent between 1986 and 1996. At the same time, trucks traveled 40

percent more miles.

But the CRASH study noted that the number of truck fatalities has remained at a fairly constant 5,000 deaths a year since 1984.

"The drop in the fatality rate is not primarily a consequence of improving safety in the trucking industry," the study said. "The fatality rates for all vehicles on the road have been dropping since 1920. The truck fatality rate has dropped no faster than the general fatality rate."

The trucking industry is also seeking tougher safety standards, Lewis said. For example, the industry wants easier access to driving records to avoid hiring bad drivers. And it wants more money for roadside inspections.

But Lewis warns that lawmakers must also consider economics when drafting any new standards.

"We are a major player in the economy," Lewis said. "This country cannot move without trucks."

1997 was safest year on highways

WASHINGTON (AP) — The government is crediting public safety campaigns with pushing the highway death rate to an all-time low last year.

Traffic accidents killed 41,987 people in 1997. Since people drove nearly 2.6 billion miles, the death rate was 1.6 per 100 million miles traveled, the National Highway Traffic Safety Administration said.

Although the number of fatalities has been lower in some other years, the higher mileage held down the rate, the lowest since NHTSA started keeping statistics 30 years ago.

Traffic accidents killed 42,085 people in 1996, for a rate of 1.7 deaths per 100 million miles.

PENNSYLVANIA DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY SAFETY & TRAFFIC ENGINEERING
ACCIDENT RECORDS SYSTEMS
STATISTICAL SUMMARY REPORT
FOR 01/01/97 TO 12/31/97
STATISTICAL SUMMARY REPORT

SURFACE CONDITION VS. SEVERITY OF ACCIDENT

SURFACE CONDITION VS. SEVERITY OF ACCIDENT									
NOI1IaNO3									
FATAL ACCIDENTS									
MAJOR ACCIDENTS INVOLVING INJURIES									
MODERATE ACCIDENTS INVOLVING INJURIES									
MINOR ACCIDENTS INVOLVING INJURIES									
UNKNOWN ACCIDENTS INVOLVING INJURIES									
TOTAL DAMAGE ONLY									
PROPERTY DAMAGE ONLY									
ALL ACCIDENTS									
NO, PCT.									
NO, PCT.									
NO, PCT.									
1083	76	3249	76	10621	74	43688	72	8468	74
230	17	690	16	1508	17	11278	19	2114	19
4	0	8	0	25	0	78	0	13	0
29	2	107	3	480	3	2119	4	272	2
50	2	97	2	310	2	1463	2	161	1
7	0	15	0	59	0	235	0	35	0
5	0	24	1	65	0	312	1	41	0
16	1	63	1	227	2	962	2	106	1
4	0	22	1	109	1	329	1	197	2
1,418		4,275		14,404		60,464		11,407	
90,550		52,294		144,262					

— *WHA T CONDITIONS WERE* —**Crashes by Weather and Road Surface Conditions**

Adverse weather and road surface conditions negatively affect vehicle handling and driver sight. Interestingly, the vast majority of crashes occur under no adverse conditions. This can be attributable to: 1) weather and roads being clear and dry most of the time and 2) drivers failing to use caution under optimal road conditions. The figures shown in both tables are for all highway types.

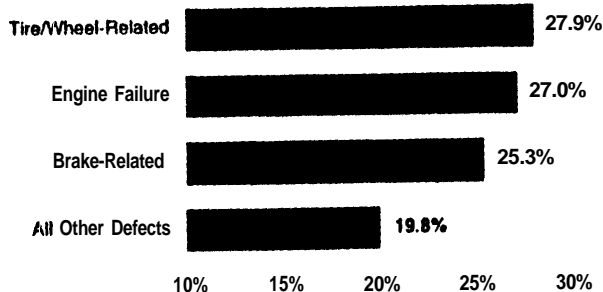
All Crashes

Weather Condition	Crashes	Deaths
No Adverse Condition	105,406 (73.8%)	1,178 (80.1%)
Rain/Rain & Fog	23,523 (16.5%)	196 (13.3%)
Snow/Sleet/Freezing Rain	11,567 (8.1%)	69 (4.7%)
Fog/Smoke, Etc.	1,542 (1.1%)	26 (1.8%)
Other	829 (0.6%)	1 (0.1%)
TOTAL	142,867 (100.0%)	1,470 (100.0%)

Road Surface Condition	Crashes	Deaths
Dry	91,338 (63.9%)	1,081 (73.5%)
wet	32,696 (22.9%)	286 (19.5%)
Ice/Ice Patches	8,893 (6.2%)	54 (3.7%)
Snow	6,733 (4.7%)	35 (2.4%)
Other	3,207 (2.2%)	14 (1.0%)
TOTAL	142,867 (100.0%)	1,470 (100.0%)

Crashes Involving Vehicle Defects

Improperly-maintained vehicles can lead to crashes. In 1996, tire/wheel, engine, and brake-related failures contributed to the majority of vehicle defect related crashes. The percentages in the graph below refer to the number of crashes involving vehicle defects.

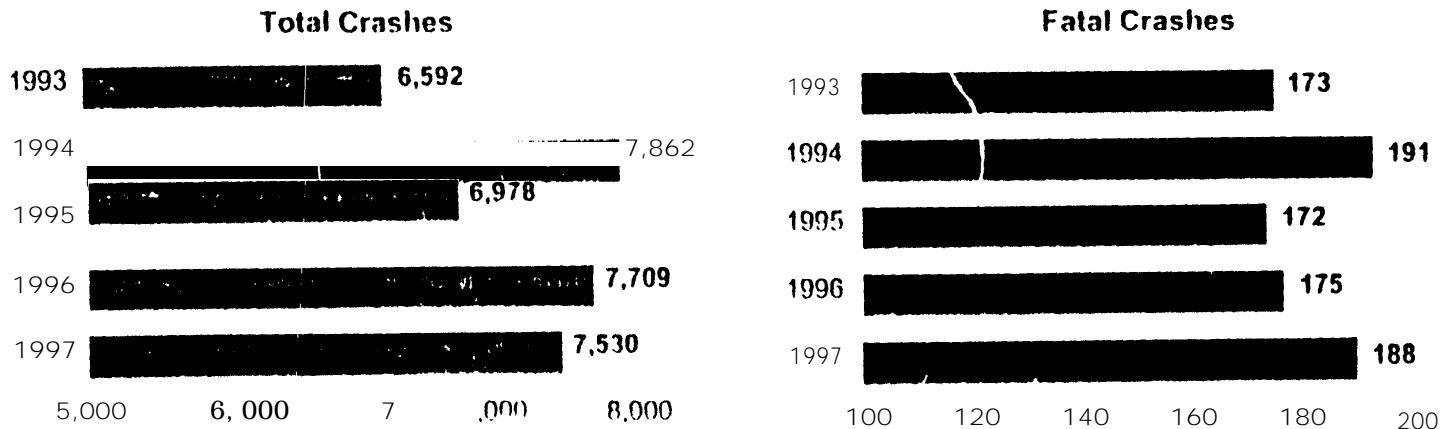


Vehicle Defect	Crashes
Tire/Wheel-Related	1,339
Engine Failure	1,299
Brake-Related	1,216
Total Steering System Failure	359
Dirty/Frosty Windshield	239
Vehicle Lighting-Related	158
Transmission Problem	107
Suspension	54
Defective Wipers	17
Defective Defrosting	13
Exhaust System Failure	6

Note that a crash may involve more than one contributing vehicle defect, such as a blowout and brake failure in the same crash.

Heavy Truck Crashes—Five-Year Trends

Fatal crashes involving heavy trucks in 1997 were the second highest in the last five years.



Heavy Truck Crashes Involving Vehicle Defects

The vast majority of heavy truck crashes involving vehicle defects as primary contributing factors were related to brakes, tires and wheels, and engine failures. *Note:* 1997 data uses primary contributing factors.

Vehicle Defect	Crashes
Brake-Related	120
Tire/Wheel-Related	94
Engine Failure	64
Total Steering System Failure	19
Transmission Problem	17
Suspension	5
Vehicle Lighting-Related	4
Dirty/Frosty Windshield	2
Exhaust System Failure	0
Defective Defrosting	0
Defective Wipers	0

Heavy Truck Crashes by Road Type

Road Type	Crashes	Occupant Deaths
State Hwy (Interstate)	1,613 (21.4%)	12 (37.5%)
State Hwy (Other)	4,338 (57.6%)	13 (40.6%)
Turnpike	418 (5.6%)	5 (15.6%)
Local Road	942 (12.5%)	1 (3.1%)
Ramp	219 (2.9%)	1 (3.1%)
TOTAL	7,530 (100.0%)	32 (100.0%)

Note: State highway (other) includes state-maintained roads that are not designated as interstates.

Mr. Joseph Szakurski:

Your ant-spray mud guards and louvered side panels were installed on three of our trucks in October 1998. Since then, both myself and my drivers, have been monitoring their effectiveness. I have personally observed the dramatic decrease in spraying during rainy weather by driving behind our trucks. The effect was almost unbelievable. My vision improved 100%. There was absolutely no spraying on to other vehicles and you could see the water pouring out the bottom of the mud guard well on to the road.

All the **drivers** definitely agree that their vision while passing, has improved 100%. They no longer have any fear or doubt about passing other vehicles in rainy weather. They also have noticed that the other vehicles are not affected by spraying rain.

One other plus I have noticed is that the trucks appear much cleaner. I attribute this to the installation of the anti-spray system. I sincerely believe this system will prevent accidents and dangerous conditions and would like to see it installed on all trucks using our nations highways.

Sincerely,

A handwritten signature in black ink, appearing to read 'Walter Pula', written over a horizontal line.

Walter Pula

Owner - Pocono Ice Co.

ANTI-SPRAY MUD GUARDS AND LOUVERED SIDE PANELS

MR. JOSEPH SZAKURSKI
RD2 BOX 2 109A
STROUDSBURG, PA 18360

Phone 717-421-1781

Congressman Kanjorski
2429 RHOB
U.S. House of Representatives
Washington, D.C. 20515

Dear Congressman Kanjorski

We would appreciate your attention to the growing **need** for safety on our highways. Every driver has experienced the spraying of rain **from** trucks with inadequate mud guards. The apparent dangers are quite evident, such as, impaired vision and temporary blindness **from** this spray. We also noticed the spraying of pebbles and small stones, a danger **to** windshields, has been totally eliminated.

Our new Anti-Spray Mud Guards and Louvered Side Panels (patent pending), shown in enclosed photographs and news stories, are the most innovative and safety conscious inventions since the inception of mud guards.

We have contacted the following, in an effort to promote highway safety, and each one contacted has expressed excitement, enthusiasm and a genuine belief that these products will help prevent accidents and save lives.

- 1) Mr. **Britell** - National Highway Traffic Safety Adm. - Washington, D.C.
- 2) Mr. Suski - American Trucking Association - Arlington, Va.
- 3) Mr. Rugh - Pennsylvania Department of Transportation - Harrisburg, Pa.
- 4) N/E Penn. - Local Television Station Channel 13
- 5) N/E Penn. - Local Television Station Channel 2
- 6) N/E Penn. - Local Television Station Channel 8
- 7) **Pocono** Record - Local Newspaper
- 8) Fran **Lysiak** - Northeastern Pennsylvania Business Journal
- 9) **20/20** ABC News -
- 10) CBS 48 Hours - Kathleen O'Connell
- 11) Road Star Magazine - Steve Sturgis, Editor
- 12) J & J Truck Bodies Inc. - Bill Riggs, President
- 13) Various National Truck Magazines

We have installed our mud guards and louvered side panels on **PENNDOT** vehicles and are waiting their evaluation. The same holds true for local Roadway Inc. trucks and trailers. They are also installed on local Ice Co. vehicles and we continue to monitor their effectiveness. We have videos demonstrating their **usefulness** during rainy weather, as well as, videos of local television interviews. We have been contacted by **20/20** ABC News, in response to our letter to them, and they are very interested in doing a segment on highway safety showing our products. We have been interviewed by ROAD STAR Magazine and an article promoting the safety aspects of our mud guards and louvered side panels will appear in their May or June 1999 edition.

As **you** can see Congressman Kanjorski, we are actively pursuing all avenues to bring highway safety to the **forefront** of people, the media, and **hopefully** our government officials. We would greatly appreciate your support of

this **growing need** on our nation's highways. We sincerely believe what we have invented will help in the prevention of accidents and save lives.

Sincerely,

Joseph **Szakurski** • RD2 Box 2 **109A**, **Stroudsburg**, Pa 18360

William P. **Szymczak** • 66 Brittany Dr., Middletown, NY 10940

ANTI-SPRAY MUD GUARDS AND LOUVERED SIDE PANELS

MR. JOSEPH SZAKURSKI
RD2 BOX 2109A
STROUDSBURG, PA 18360
Country

Phone 717-421-1781

Highway Safety Prevents Accidents and Saves Lives

DOT SBIR **Program** Office, DTS-22
.US Department of Transportation
Research & Special Programs Administration
.John A. Volpe National Transportation Systems Center
55 Broadway, **Kendal** Square
Cambridge, MA 02 142-I 093

HISTORY

Since inception of using mud guards on trucks, tractor-trailers and emergency vehicles some 50 years ago, very little, if anything, has changed **in their** design or function. Installed initially to prevent rain from spraying on vehicles driving **behind** or next to these trucks, anyone who has been on a highway during rain can attest to the fact that this **function** is non-existent. The only use seen by the hundreds of people I have spoken to is advertising for various companies whose logos appear on the mud guards

While on a motor trip from Pennsylvania to Chicago, Illinois in 1997 **I** experienced these phenomena first hand, since it rained both light and heavy most of the trip. I noticed how dangerous the spraying of rain was from the many trucks that passed me, and which I passed, at speeds between 55-70 miles per hour. It became apparent that there should be some way to prevent this **from** happening. I observed the mud guards on many of the tractor-trailers were flapping in the wind and doing very little to prevent the spray of rain from hitting my windshield and temporarily blinding me. I became cognizant of this and how other vehicles responded. Many slowed down dramatically; and a few even swerved slightly to help improve their vision. It became clear to me that this spraying effect from the tractor-trailers was an accident looking to happen. My wife and **I** were totally wrapped up in observing everything, and while we did not see any accidents during this trip, it was only the good sense and awareness of many of the drivers that prevented accidents **from occurring**.

THE IDEA

I started thinking about what could be done to improve this situation and upon arriving home **from** this trip I began thinking, of ways to improve the mud guards that trucks and tractor-trailers were using. Being an inventor of sorts, with patents pending on other inventions, retired and having ample time to experiment, I began the process of formulating ideals and drawing various blueprints and sketches. This was late 1997. After many experimental plans I finally recognized that the rain water must be dispersed towards the ground, hence, the idea of the so called second window in the mud guard. I also saw they had to be bent at an angle to force the rain towards this window. I finally hit upon the correct angle by bouncing a **rubber** bail at various angles until it landed exactly in the center of the mud guard which proved to be the proper angle.

My next thoughts were of the rain hitting the sides of the trucks. Where did it go? Back on the road, of course, in the **form** of a spray. That's when the idea of the louvered side panels began. After a few experiments I quickly came up with the proper size and length of the side panels. **When** strategically placed along the side of the trailers directly in front of the mud guards the side panels force the rain to flow out the window of the mud guards.

The next six months were spent perfecting my design of the mud guards and louvered side panels until I arrived at what you see here now. I began speaking to truck companies, the news media and anyone I could think of who would benefit or could see the safety aspects of my new products. I contacted a Mr. Briteii, an engineer with the National Highway Traffic Safety Administration. He was very enthusiastic after I explained my ideas to him and eager for me to send literature so he could evaluate these products. My brother-in-law, who by this time had become my right-hand man, suggested that a face to face meeting was much more effective. My brother-in-law and I met with Mr. **Britell** on September 30, 1998 in Washington, D.C.

THE MEETING

It started at 12: 1 **5pm** in Mr. Britell's office. He **carefully** examined the mud guards and side panels. He asked me to explain my background and experiences, and how **I** came to invent these products. **In** 195 **I** became a welder/fitter at Project Fabricators in College Point, N.Y. I quickly became a foreman and for twenty years assisted in manufacturing tanks, piping, ovens, waste treatment and liquid oxygen plants. We also manufactured small oxygen producing **units** for the submarine tenders of the Polaris missiles, which we installed and put on stream. Liquid oxygen towers some **150** feet high were also manufactured for the steel mills. The company changed its name to Process Plant when it became listed on the NASDAQ Stock Exchange. The price of the stock went from \$5.65 to \$86.00 per share in two short years. **In** 197 **I** the president of Process Plants passed away and the company was dismantled. I applied for, and received, a job at Cerro Wire Company in Syosset Long Island, N.Y. I became supervisor of **manufacturing** and was responsible for design and manufacture of conveyors and tanks. I retired in 1987 and have come up with inventions which are beneficial to people. In August I received a patent number for a three way swivel snow remover to take snow off roofs and semi-trailers. This led to inventing the mud guards and side panels.

Mr. **Britell** seemed pleased and was excited about these products. He mentioned that we had a very good thing here and told us that no one has ever come up with such an innovative new design in mud guards. Many questions were then directed towards my brother-in-law as to cost effectiveness and actually how effective the mud guards were. Being an accountant, he was well aware that this product had to be cost effective in a very competitive market. However, he did explain that if these new products helped prevent accidents or deaths, the cost would be insignificant. Mr. **Britell** agreed and suggested that a video proving their effectiveness would be extremely beneficial towards enhancing our chances of getting federal approval or money. We talked of the many ways this might be accomplished but since we had already installed the mud guards and side panels on trucks in our area for just this purpose, it **was** a simple decision to wait for rain and videotape the mud guards in use.

Mr. **Britell** also gave us literature about applying and receiving federal grants to assist in the research and development process. He called a Mr. Suski of the American Trucking Association to inform him of what he had seen but he was on vacation. He explained that the A.T.A. was very safety conscious and almost assured us that Mr. Suski would be interested in testing the mud guards and side panels.

When we left the meeting about 2:00pm we had high expectations, but we also knew the wheels of government sometimes creep very slowly. We definitely know these new products perform effectively and efficiently and will prove to be a very safe method of reducing accidents during rainy weather. How long we must wait is anybody's guess but we believe expediency is of the utmost importance. If only one accident or death can be prevented due to the use of these products we feel we have contributed greatly to enhancing and bringing highway safety to the forefront of people's minds. If people can see that driving during inclement weather need not be a nerve shattering or white knuckle clenching driving experience, but as safe as driving in clear weather, then all our efforts would have been worth it.

Many more meetings are in progress with Mr. **Britell**, the American Trucking Association (Mr. Suski), **PENNDOT** (Pennsylvania Department of Transportation), Roadway Express and United Parcel Service (UPS), along with various local trucking companies who expressed an interest in having these mud guards and side panels installed on their trucks. For these reasons we are excited that you have offered us this opportunity to show you our exciting new products. We hope you can see the enormous service, with an eye towards safety, they can provide.

Any further information you may desire would be sent immediately. We also have some dynamic videotapes of our products in use, which of course would be sent to you upon request. Please feel free to contact the undersigned for any additional data required.

Sincerely,

Joseph **Szakurski**

William P. **Szymczak**

Enclosures:

1. Pictures of **trucks** with old style mud guards.
2. Pictures of **trucks** with Anti-spray Mud Guards and Side Panels.
3. Newspaper story with picture.
4. Business Journal article.
5. Accident statistics - Pennsylvania and national.
6. Photos of accidents during rain are being pursued, but we must wait for various approvals. It seems that the media are reluctant to release photographs due to legal constrictions.
7. Letter **from** Ice Company now using mud guards and side panels on their vehicles.

Without Anti-Spray Mud (a. t. e. s. m. s. d. e. v. e. l. o. p. e. d. s. i. n. c. e. 1. 9. 7. 5.)

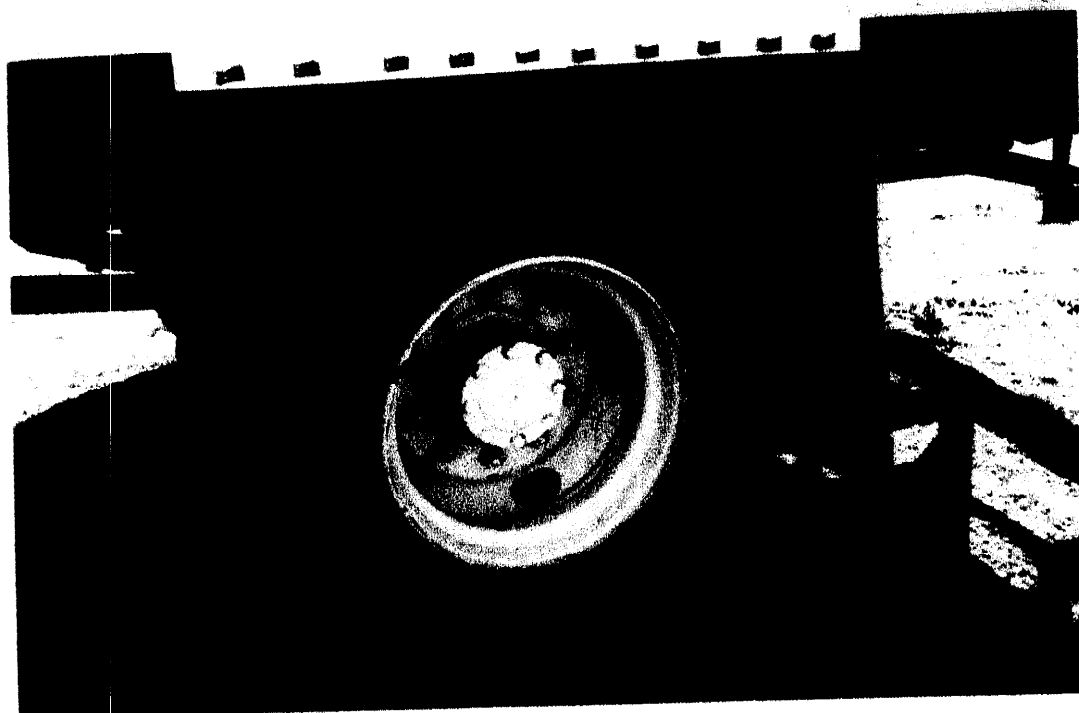
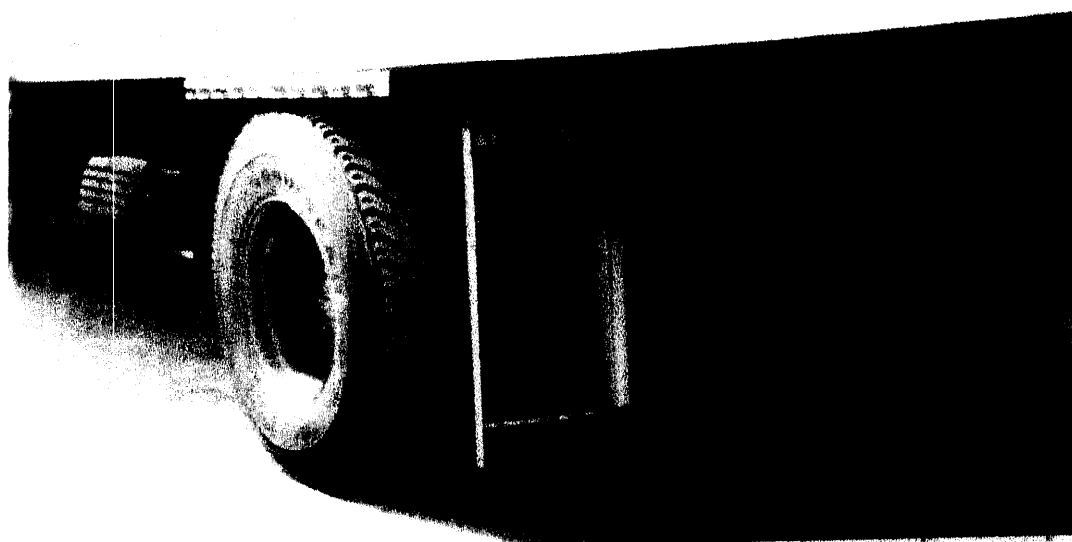
HEAVY RAIN

WITH ANTI SPY MID GUARDS⁵ LOVERED PANELS

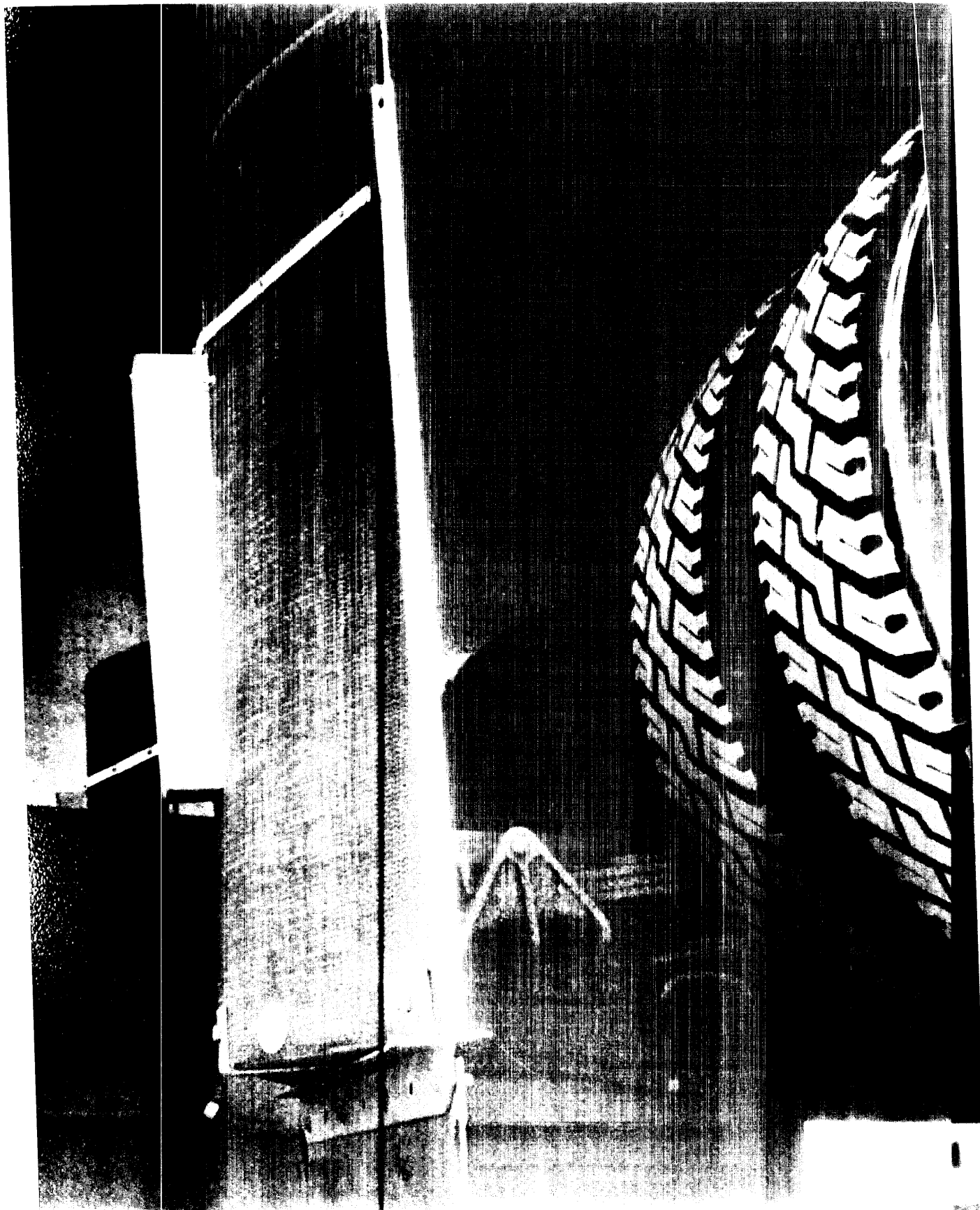
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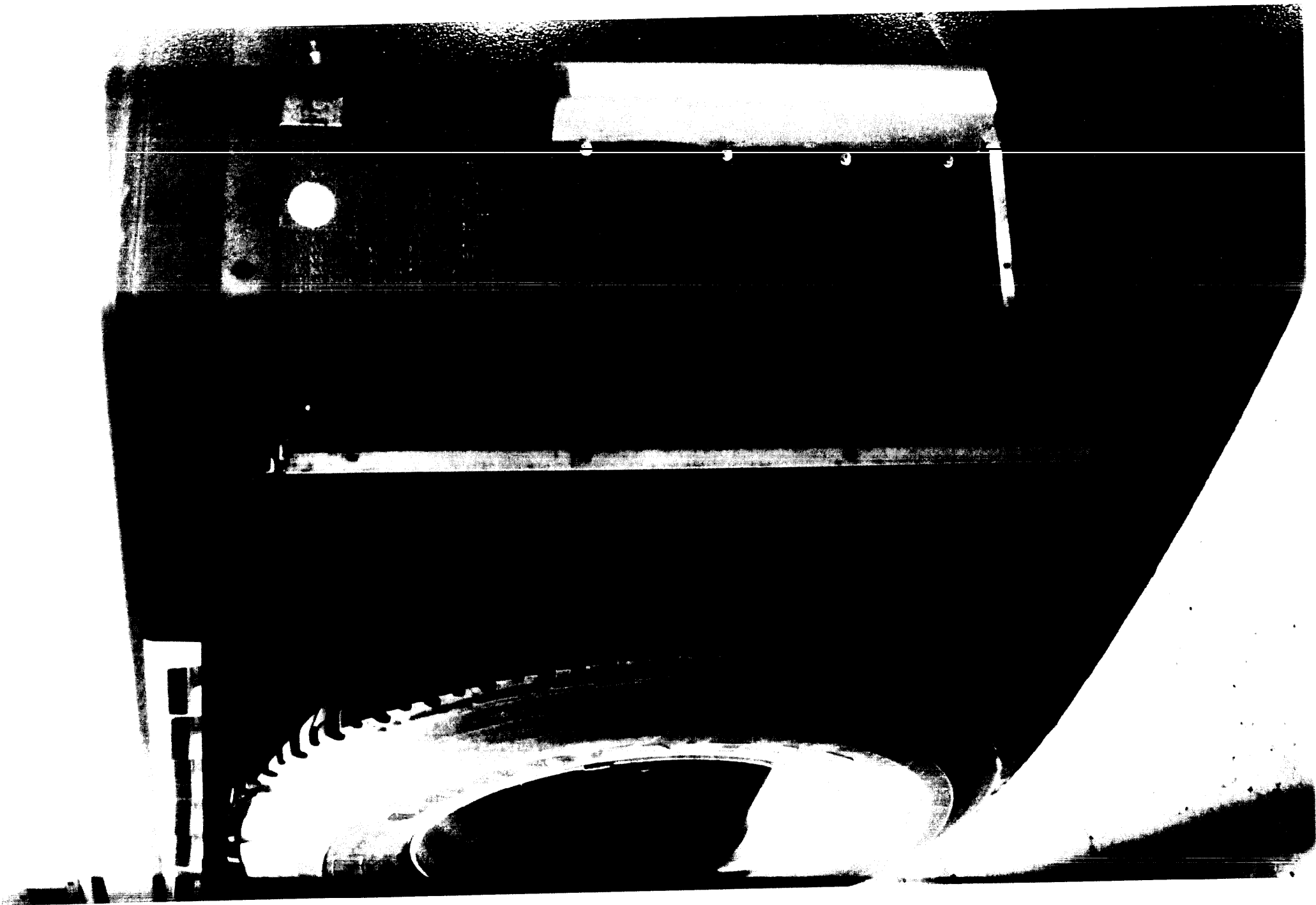
HEAVY RAIN

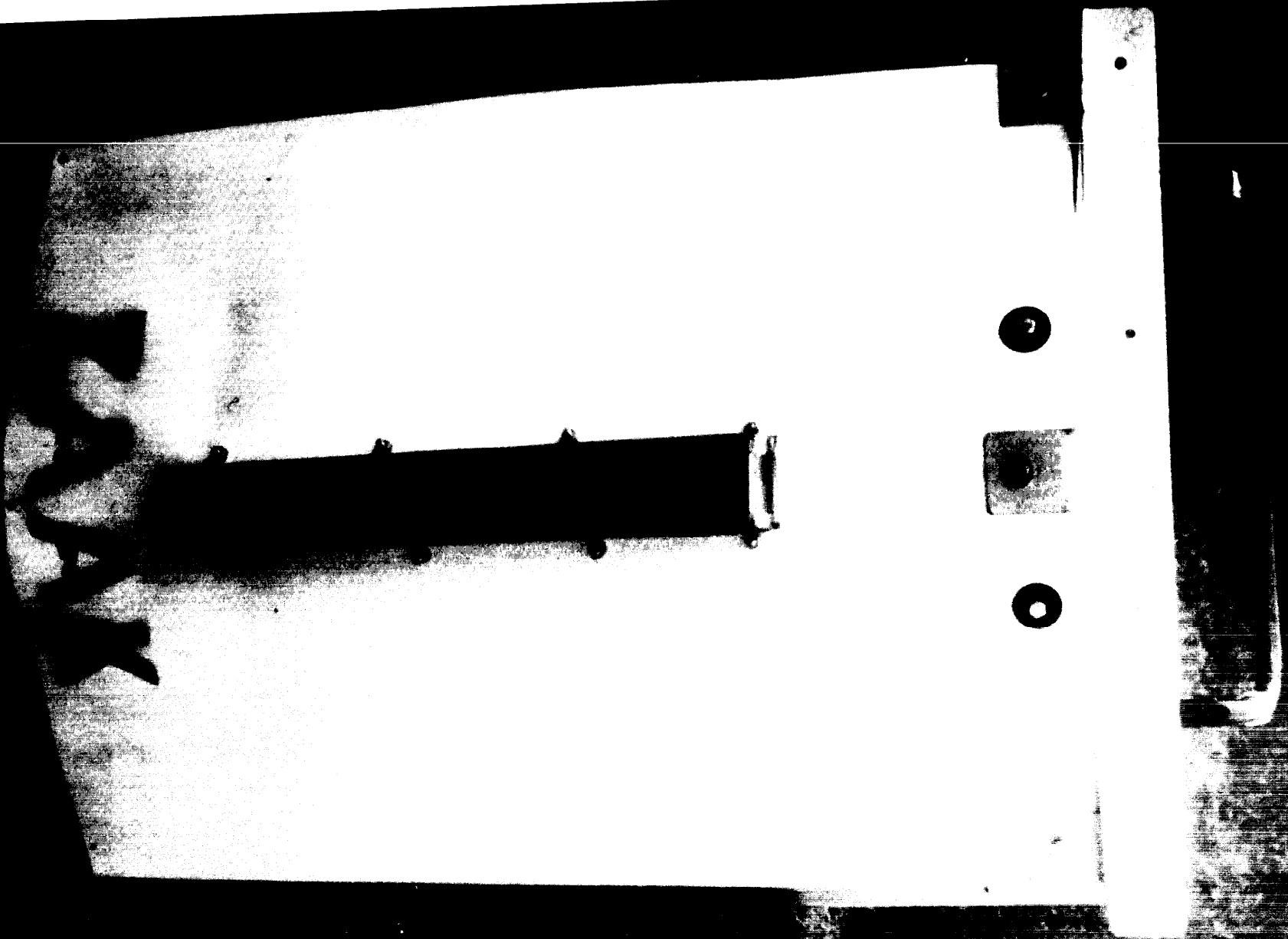
ZAAK ANTI-SPRAY MUDGUARD



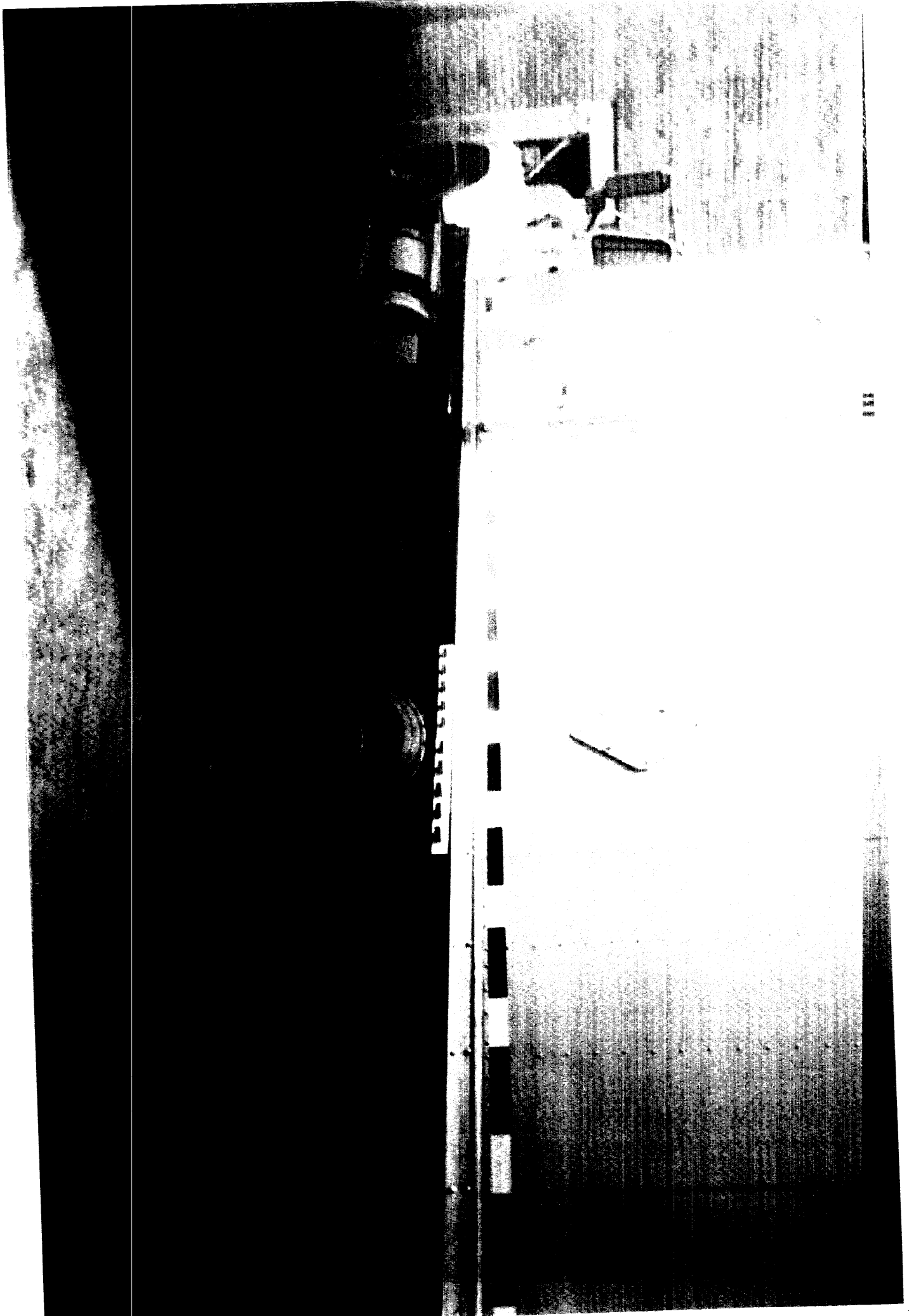
594 8071











THE NO PICK UP SHOVEL
JUST SET ON ROOF AND PUSH
AND PULL THE SWIVEL ACTION
WILL HELP REMOVE THE SNOW
THERE IS NO NEED TO PICK UP
SHOVEL TO REMOVE SNOW -
JUST PUSH AND PULL FROM
WHERE YOU ARE STANDING
ON THE GROUND.

036

ZAAS SNOW REMOVER
PAT. - 5,791,707

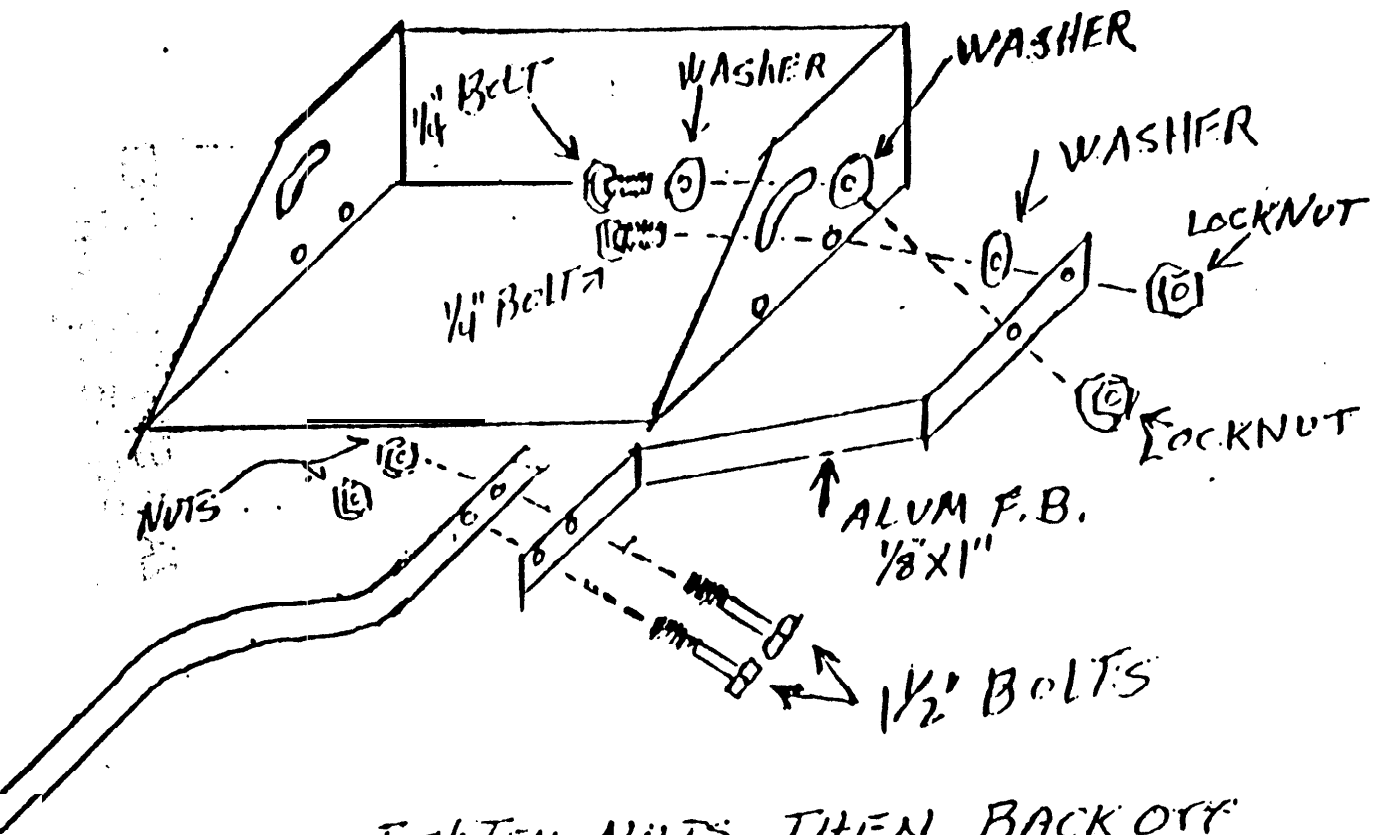
Once you put it on the roof you do not
have to pick it up to go to another
section. All one has to do is push and
pull. The swivel action does the rest.
When pushing up over the snow the
swivel action lets it glide up then when
pulling it cuts into snow and opens to
remove snow. To steer the shovel all
one has to do is move your footing left
to go right and etc. Cut 2 pos. of
plywood 2' by 4' and put over snow on
ground to have better footing on
ground.

swivel 3 way snow remover

PAT. PENDING

DO NOT BREAK YOUR BACK GET A

INSTRUCTIONS



- TIGHTEN NUTS THEN BACK OFF $\frac{3}{4}$ TURN
- Remove NUTS and only place FLAT BAR WITH HOLES OVER BOLTS AND TIGHTEN THEN BACK OFF $\frac{3}{4}$ TURN